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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/757,435	KIM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Anh Ly	2162	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. ☒ This communication is responsive to 09/26/2007.
- 2. ☒ The allowed claim(s) is/are 53-56; 73, 91-92, 95-97 and 100-102 (renumbered as 1-13).
- 3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  - 1. ☐ Certified copies of the priority documents have been received.
  - 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

- 4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
- 5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

- 6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application  |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>10/15/2007</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>10/12/2007</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                     | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                           |
|  | 9. <input type="checkbox"/> Other _____.   |

### DETAILED ACTION

1. This Office action is response to Applicant's AMENDMENT filed on 09/26/2007.
2. Claims 1-52, 57-72, 74-90 and 93-94 are cancelled.
3. Claims 97-102 have been added.

### EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Norman E. Brunell (Reg. No.: 26,533) on MON. 10/15/2007 at (301) 277-1010.

The application has been amended as follows:

#### **Claim 97:**

97. (currently amended) A computer-implemented method of ranking the relevancy of pages in a collection of pages including linking hypertext pages, comprising:

crawling the Web to produce a collection of pages without limitation to topic;  
selecting words from the pages of the collection of pages without a priori knowledge of keywords in a query;

ranking the pages in the collection of pages for the selected words by, for each of the selected words with regard to each of the selected pages;

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determining an intrinsic ranking factor for by examining content related to the selected word on the selected page to determine a content score and adjusting the content score in accordance with the page weight of the selected page;

determining an extrinsic ranking factor for use of the selected word on the selected page by, for each linking page in the collection of pages containing an outbound hypertext link to the selected page, examining text associated with the outbound hypertext link related to the selected word to determine an anchor weight for the linking page, adjusting the anchor weight in accordance with the page weight of the linking page and combining the adjusted anchor weights for all linking pages containing an outbound hypertext link to the selected page; and

ranking each selected page for each selected word by combining the intrinsic and extrinsic ranking factors related thereto; and

creating a searchable data structure of related to the pages in the collection of pages indexed in accordance with the selected words, each indexed word associated with pages ranked for each such indexed word so that search results provided in response to the query are already ranked in accordance with relevance to the query.

**Claim 98:**

Cancel claim 98

**Claim 99:**

Cancel claim 99

**Claim 100:**

100. (currently amended) The method of claim ~~99~~ 97 wherein ranking each selected word for each selected page by containing the intrinsic and extrinsic ranking factors related thereto ~~the pages~~ further comprises:

adjusting the anchor weight for each such linking page in accordance with a link weight based on other outbound links on such linking page.

**Claim 101:**

101. (currently amended) A computer-implemented method of ranking the relevancy of pages in a collection of pages including linking hypertext pages, comprising:

(a) determining an a set of words used on a selected page to be ranked in a collection of pages;

(b) determining an intrinsic ranking factor for the selected page for each word in the set of words by determining a content score for use of the selected word on the selected page and adjusting the ranking for a page weight associated with the page being ranked;

(c) determining an extrinsic ranking factor for remaining pages in the collection of pages for use of said each word in association with an outbound link to the selected page by determining an anchor weight for the page being ranked and adjusting the ranking for a page weight associated with the page being ranked;

(d) repeating (a) through (c) for all pages in the collection of pages; and

(e) forming an index entry for each word in all the sets of words, each index entry including a list of the pages in the collection of pages using the word being indexed having the highest combined rankings for

1) the intrinsic ranking factor for use of the word being indexed on the page being listed and

2) the extrinsic ranking factor for use of the word being indexed in association with pages having an outbound link to the page being listed.

**Claim 102:**

102. (currently amended) The method of claim 101 wherein (c) further comprises: further adjusting the extrinsic ranking factor for a link weight associated with other outbound links on the page being ranked.

5. Claims 53-56, 73, 91-92, 95-97 and 100-102 are allowed.

**Allowable Subject Matter**

6. The present application has been thoroughly reviewed. Upon searching a variety of databases, the examiner respectfully submits that claims 53-56, 73, 91-92, 95-97 and 100-102 are allowed in light of the applicants' argument and in light of the prior arts of made record.

The following is an examiner's statement of reasons for allowance:

The claimed invention is directed to method for ranking the relevancy of pages in a collection of pages including linking hypertext pages. The rank of a page for a keyword is a combination of intrinsic and extrinsic ranks. The intrinsic rank is the measure of the relevancy of a page on a given keyword as claimed by the author of the page, while the extrinsic rank is a measure of the relevancy of a page on a given keyword as indicated by other pages.

The closest prior arts, Aridor teaches searching the web pages from a collection or list of web page and ranking the web pages and producing ranked search results based on the query. While Broder teaches ranking factor and determining the relevance from the content of a document and determining the relationship between the documents. Combination of Aridor and Broder fail to teach determining an intrinsic ranking factor for the selected page for each word in the set of words by determining a content score for use of the selected word on the selected page and adjusting the ranking for a page weight associated with the page being ranked and determining an extrinsic ranking factor for remaining pages in the collection of pages for use of said each word in association with an outbound link to the selected page by determining an anchor weight for the page being ranked and adjusting the ranking for a page weight associated with the page being ranked.

These distinct features, in conjunction with all other limitations of the dependents and independent claims render claims 53-56, 73, 97 and 100-102 them allowable.

Also, Combination of Aridor and Broder fail to teach an anchor weight related to the use of said each of the plurality of selected words in association with an outbound

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link on said each page to another page in the collection; for each pair of one of the plurality of selected words and a select page having a content score for said one of the plurality of selected words, ranking a relevancy of each said selected page for said one of the plurality of selected words, in accordance with a combination of the content score for that the selected word on the selected page adjusted in accordance with the page weighting factor for the selected page, and the anchor weight for each linking page having an outbound link to that the selected page adjusted in accordance with a page weight for said each linking page.


These distinct features, in conjunction with all other limitations of the dependents and independent claims render claims 91-92 and 95-96 them allowable.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ly whose telephone number is (571) 272-4039 or via E-Mail: ANH.LY@USPTO.GOV (Written Authorization being given by Applicant (MPEP 502.03 [R-2])) or fax to (571) **273-4039** (unofficial fax number directly to examiner). The examiner can normally be reached on TUESDAY – THURSDAY from 8:30 AM – 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John Breene**, can be reached on (571) 272-4107.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Any response to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, or faxed to: **Central Fax Center: (571) 273-8300**

ANH LY   
OCT. 16<sup>th</sup>, 2007

  
JOHN BREENE  
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